

A NEW SPECIES OF *CLYMENELLA* (POLYCHAETA: MALDANIDAE)
FROM TOMALES BAY, CALIFORNIA

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ABSTRACT: A new species of *Clymenella* is described from shallow subtidal sediments in Tomales Bay. Comparisons are made with related *Clymenella* species.

Four specimens of an unknown species of *Clymenella* were collected at a depth of about one meter during a low tide in White Gulch, Tomales Bay, California on 22 October 1969. The specimens could not be identified as any species of *Clymenella* known from California (Hartman, Atlas of the sedentariate polychaetous annelids from California, Allan Hancock Foundation, Los Angeles, 1969) and were determined to represent a previously undescribed species. This is contribution number 33 from the Pacific Marine Station.

Clymenella californica, new species

Figures 1 and 2

Material examined: White Gulch, Tomales Bay, California, 22 October 1969, from loose silt sediment, depth about one meter; four specimens, holotype and three paratypes, deposited in the collections of the Allan Hancock Foundation, University of Southern California.

Description: The specimens have from 22 to 27 setigerous segments with one preanal asetigerous segment in addition to the peristomial and pygidial segment. The holotype has 27 setigerous segments, measures 200 mm in length and 2 mm in width. Individual posterior segments are greatly prolonged and maximally measure up to 17 mm in length while those from anterior setigers measure 2.5 to 3 mm.

The anterior end terminates in an elongated ce-

phalic plaque which has an anterior projecting palpode, followed posteriorly on each side by raised lateral margins which surround the plaque and merge posteriorly (Figs. 1a-1b). The margin is interrupted by small notches near the posterior end of the plaque. Two parallel nuchal grooves lie alongside an elevated nuchal ridge which extends through the mid-region of the plaque. Clusters of eyespots occur on the anterior lateral edge of the prostomium (Fig. 1a).

The first three setigers lack collars, but bear fascicles of long capillary notosetae and one or two acicular neuropodial spines (Fig. 2a). Setiger 4 has a conspicuous smooth collar on its anterior border. Notosetae are capillaries, but the neurosetae consist of about fifteen non-bearded rostrate setae, each of which has a main fang and four secondary teeth (Fig. 2b). Setiger 5 and succeeding setigers bear notopodial capillary setae and bearded rostrate neurosetae (Fig. 2c). The number of secondary teeth gradually increases from four to five. The setal fascicles gradually shift from dorsolateral positions in anterior segments (Fig. 1a) to lateral positions in posterior segments (Fig. 1c).

The anal funnel terminates in a ring of 22 nearly equal cirri (Figs. 1c-1d). The anus is at the apex of a raised cone.

Color of the first three setigers is iridescent pink;

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TABLE 1. Differential characteristics of California *Clymenella* species.

Characteristics	<i>C. californica</i>	<i>C. complanata</i>
Number of setigers	22-27 setigers and 1 asetiger	21 setigers and 4 asetigers
Length	200 mm	90 mm
Transverse nuchal groove across plaque	absent	present
Marginal flange around plaque	present	absent
Segmental collar	setiger 4	setigers 4 and 5
Habitat	silty sediments in Tomales Bay	shaley rock crevices of the open coast

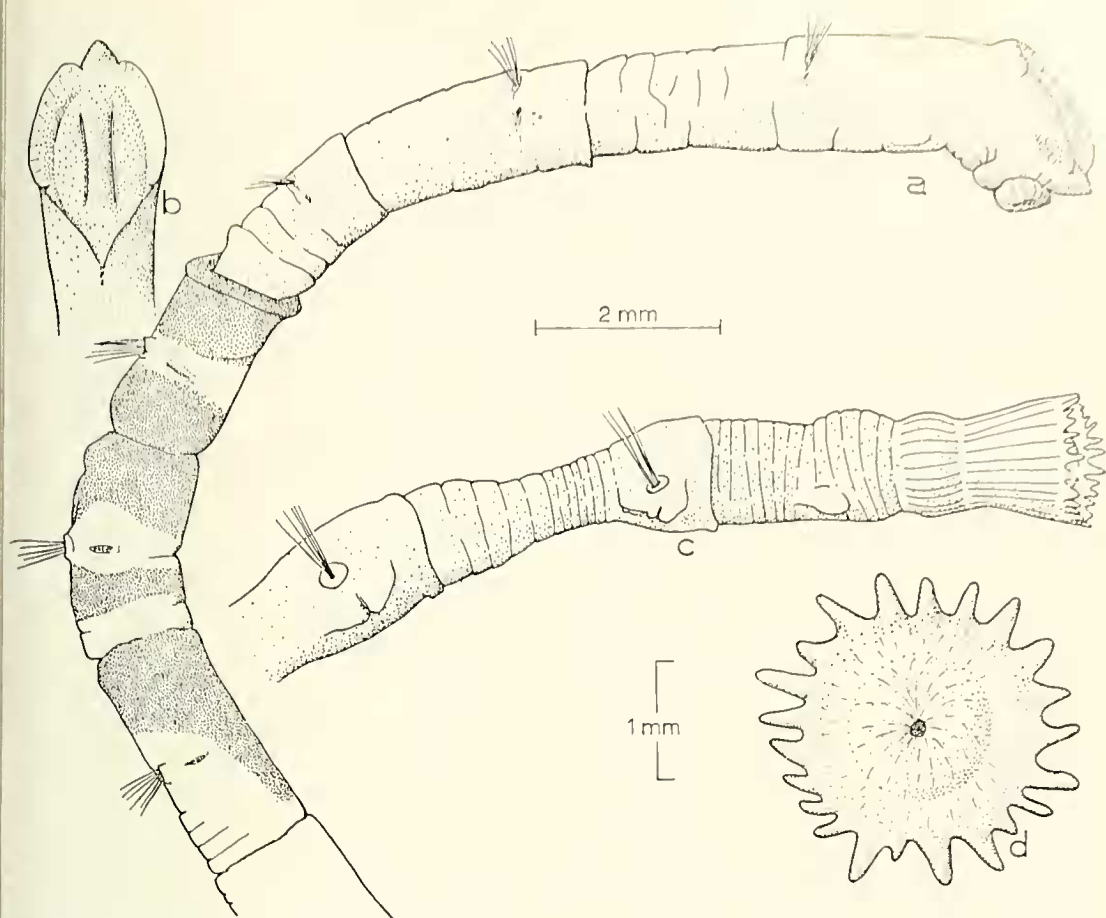


Figure 1. *Clymenella californica*, new species: a, anterior end in lateral view; b, cephalic plaque in dorsal view; c, posterior end in lateral view; d, pygidium in posterior view.

setigers 4-7 have deeply pigmented red areas alternating with the lighter pink bands; setigers 8-13 are pale brown to white (white when sexually mature); the remaining segments exhibit color gradients from light to dark orange. The entire body surface is covered with numerous lines and folds.

The tube is rigid, J-shaped, and formed of cemented sand grains.

Distribution: Tomales Bay, California.

Remarks: *Clymenella californica* differs considerably from *C. complanata* (Hartman, 1969) which is known only from San Mateo County and Point Conception in California where it inhabits shaley rocks from the intertidal to shallow subtidal. See table 1 for differentiating characteristics. On a global basis, *Clymenella californica* appears closest in morphology to *C. cincta* (St. Joseph, 1894) from France. It differs from *C. cincta* in having its collar margin entire instead of incised. The nuchal slits of *C. californica* are

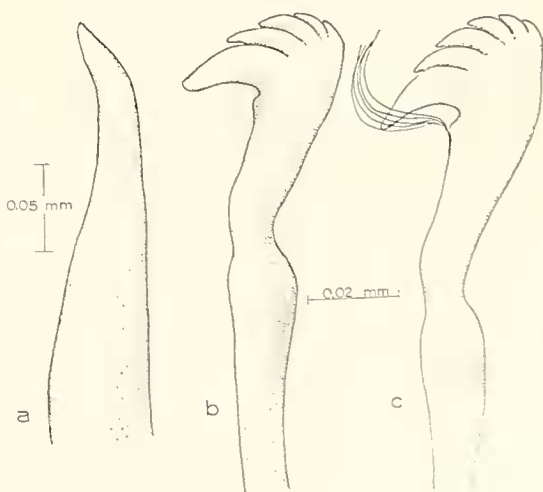


Figure 2. *Clymenella californica*, new species: a, acicular seta from setiger 1; b, rostrate seta from setiger 4; c, rostrate seta from setiger 21.

parallel, but transverse in *C. cincta*. Non-bearded rostrate neurosetae present in *C. californica* are not reported for *C. cincta*. The number of setigers is not known.

Clymenella californica is superficially confused with *Axiothella rubrocincta* (Johnson, 1901), a common maldanid in north Pacific bays and estuaries. The generic differences involve the presence of thick acicular neuropodial spines in

setigers 1-3 of *Clymenella* where *Axiothella* has rostrate neurosetae.

Biology: The functional morphology of feeding in *Clymenella californica*, *Axiothella rubrocincta*, and *Praxillella affinis pacifica* has been studied and will be published elsewhere (Kudenov, M.S.). Eggs were present in the coelom of some specimens of *C. californica*.

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